

PATENT
SERIAL NO.: 10/020,647
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This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A sealed wheel case for use on a vibratory device for vibrating aggregate material, the vibratory device having a frame and a rotating shaft extending transversely across the frame and having a wheel, a driven portion of the shaft being operatively coupled to a drive system, the sealed wheel case comprising:
 - a housing having a base, a peripheral sidewall, and a cover, the housing being sized to receive therein the wheel and further being adapted to house therein a quantity of lubricating oil for lubricating the wheel, the cover including an aperture adapted to receive therethrough the driven portion of the shaft;
 - a seal operatively connected to the shaft adjacent the aperture of the cover;
 - an annular baffle mounted to an inside surface of the cover and extending into the wheel case, the annular baffle positioned on the inside surface of the cover to generally surround[ing] the shaft and the seal; [and]
 - a plurality of sealed-attachment bolts for securing the housing to the frame, each attachment bolt including a shank having an inner end and an outer end, and a pressed on collar sized to be received on the shank from the inner end;
 - at least a washer disposed between the inner end and the outer end; and
 - at least an O-ring disposed between the inner end and the outer end, the O-ring being concentric with the washer;
 - wherein the pressed on collar and the outer end of each attachment bolt press the washer and the O-ring to sealably secure the housing to the frame.

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2. (Original) The sealed wheel case of claim 1, wherein the seal is a labyrinth seal.

3. (Original) The sealed wheel case of claim 1, wherein the annular baffle includes an inner edge, the inner edge being disposed adjacent the wheel to form a gap therebetween.

4. (Previously amended) The sealed wheel case of claim 1, the annular baffle having an inner edge disposed generally adjacent the wheel, the annular baffle sized to define an annular gap between the inner edge of the annular baffle and the wheel, the annular baffle sized to minimize the size of the gap to thereby shield the seal from the lubricating oil.

5. (Twice amended) A sealed wheel case for use on a vibratory device for vibrating aggregate material, the vibratory device having a frame and a rotating shaft extending transversely across the frame and having a wheel, a driven portion of the shaft being operatively coupled to a drive system, the sealed wheel case comprising:
a housing having a base, a peripheral sidewall, and a cover, the housing defining an interior sized to receive the wheel, the housing adapted to hold quantity of lubricating oil for lubricating the wheel, the cover including an aperture adapted to receive therethrough the driven portion of the shaft;
a seal operatively connected to the shaft adjacent the wheel case aperture;

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annular baffle means for substantially isolating the seal from the interior of the wheel case, the means carried by the housing cover; and
a plurality of attachment bolts;
a seal assembly disposed on the attachment bolt;
wherein each attachment bolt and the corresponding seal assembly
cooperatively engage the housing and the frame to sealably arrange to secure the housing to the frame.

6. (Currently amended) The device of claim 5, wherein each of the attachment bolts comprises includes:
a shank;
an inner end having a pressed on collar, the inner end and the pressed on collar disposed within the housing and having an inner contact surface, the inner contact surface defined by the pressed on collar; and
an outer end disposed outside the wheel case and having an outer contact surface adjacent the frame; and
wherein the seal assembly comprises:
an inner control washer disposed between the inner contact surface and the housing base, the inner control washer having a first predetermined thickness and further having an aperture therethrough sized to form with the bolt shank an inner annular cavity; and
an inner O-ring sized for insertion in the inner annular cavity, the inner O-ring having a second predetermined thickness greater than the first predetermined thickness;

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an outer control washer disposed between the outer contact surface and the frame, the outer control washer having a third predetermined thickness and further having an aperture therethrough sized to form with the bolt shank an outer annular cavity[,]; and

an outer O-ring sized for insertion in the outer annular cavity, the outer O-ring having a fourth predetermined thickness greater than the third predetermined thickness;

whereby in response to securement of each attachment bolt by attaching the pressed on collar each O-ring is compressed to substantially fill its adjacent annular cavity, thereby preventing the lubricant from escaping the housing and further preventing the pressed on collar from loosening.

7. (Currently amended) A vibratory device for vibrating aggregate material and comprising:

a frame;

a rotating shaft extending transversely across the frame and having a wheel, a driven portion of the shaft adapted for attachment to a drive system; a wheel housing, the housing including a base, a peripheral sidewall, and a cover, the housing defining an interior sized to receive a rotatable wheel, the interior adapted to hold a quantity of lubricating oil;

an aperture through the cover, the aperture adapted to receive therethrough the driven portion of the shaft;

a seal operatively engaging the driven portion of the shaft and arranged to inhibit lubricant from escaping the interior of the housing;

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an annular baffle carried by an interior surface of the housing and positioned to surround the seal and the aperture, a cylindrical end of the baffle cooperating with the wheel to define an annular gap, the baffle sized to minimize the size of the gap, thereby inhibiting the flow of lubricating oil from the wheel toward the seal; and

a plurality of sealed attachment bolts for securing the housing to the frame, each attachment bolt including a shank;

at least a washer mounted on the shank, the washer having an aperture therethrough sized to form an annular cavity with the shank; and

at least an O-ring sized for insertion in the annular cavity, the O-ring having a thickness greater than a thickness of the washer;

wherein in response to securement of the attachment bolt, the O-ring is compressed to substantially fill the annular cavity, thereby preventing the lubricant from escaping.

8. (Previously presented) The device of claim 5, wherein the seal is a labyrinth seal.

9. (Previously presented) The device of claim 5, wherein the annular baffle includes an inner edge, the inner edge being disposed adjacent the wheel to form a gap therebetween.

10. (Previously presented) The device of claim 5, the annular baffle having an inner edge disposed generally adjacent the wheel, the annular baffle sized to define an annular gap between the inner edge of the annular baffle and the wheel, the

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annular baffle sized to minimize the size of the gap to thereby shield the seal from the lubricating oil.

11. (Previously presented) The device of claim 7, wherein the seal is a labyrinth seal.

12. (Previously presented) The device of claim 7, wherein the annular baffle includes an inner edge, the inner edge being disposed adjacent the wheel to form a gap therebetween.

13. (Previously presented) The device of claim 7, the annular baffle having an inner edge disposed generally adjacent the wheel, the annular baffle sized to define an annular gap between the inner edge of the annular baffle and the wheel, the annular baffle sized to minimize the size of the gap to thereby shield the seal from the lubricating oil.